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ADST

Cold Start Procedures Manual

For the

BDS-D M1/Masscomp Host Configuration

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1.0 Scope

Per DI-MISC-80711, this manual details the M1/Masscomp Host Simulator Cold Start Procedures specific to the Orlando, Florida site. Distribution instructions, interaction with other simulators, and hardware compatibility notes (as applicable), as well as a detailed overview of the software release will be included in the ADST Version Description Document for the BDS-D M1/Masscomp Host 1.0.0; document number ADST/WDL/TR--93-003066.

"I Pete Peterson on this date 3/29/93, hereby certify that the software release BDS-D M1/Masscomp 1.0.0 has been built from limited access, controlled baseline. This software is, to the best of my knowledge, free of malicious code intended to subvert its operation."

2.0 Cold Start Methodology

The Cold Start procedure for the M1/Masscomp Host describes the user's ability to generate all application loads from source files. This procedure consists of installing and bringing on-line the operating system, application, source files, data files, boot files, configuration files and databases. This procedure describes in detail how to compile and link the source files to create the application's executable images and how to verify the M1 build load. Verification of a build load is demonstrated through a series of tests or a checklist. This procedure also provides a detailed list of instructions that allow the user to startup and shutdown the M1.

2.1 Required Resources

The following sections outline the required hardware and software resources needed to build the Masscomp based M1 simulator.

2.1.1 Hardware Resources

The Masscomp based M1 tank simulator requires the following hardware configuration resources to run:

<u>Hardware Item</u>	<u>Description</u>
Masscomp 5600	Masscomp 5600 computer running RTU 4.0A operating system.
BBN 120T CIG	Bolt, Beranek, & Newman (BBN) 120T Computer Image Generator running rtt120t.all3 operating system.
150 MB tape drive	A 150 MegaByte tape drive must be installed in the Masscomp 5600 computer for application, source, and operating system installations.

2.1.2 Software Resources

The magnetic media (disks and tapes) prepared and supplied as part of the BDS-D M1/Masscomp 1.0.0 are identified below:

<u>Media Type</u>	<u>Label</u>	<u>Description</u>
DC 6150 Tape	BDS-D M1/Masscomp Host 1.0.0	M1 1.0.0 application tape
DC 6150 Tape	BDS-D M1/Masscomp Host 1.0.0	M1 1.0.0 source tape
5 1/4" Floppy disk	Boot Disk	Stand alone boot disk
DC 6150 Tape	RTU4.0A	RTU4.0A system dump boot tape

2.1.3 Other Required Resources

There are no other required resources.

2.2 Cold Start Procedures

The following section outlines the procedure for performing a cold-start on the Masscomp 5600 system.

2.2.1 System Preparation

This section describes formatting the disks on the Masscomp 5600 and installing the RTU 4.0A operating system. These instructions demonstrate how to format the system disk, install the operating system, and perform system checks verifying that the operating system is running correctly.

SYSTEM PREPARATION

CONTROL ACTION	EXPECTED RESULTS
1. Log in to the Masscomp as root (no password)	The console terminal will display the prompt: SIMLAB13 #
2. Reboot the computer to single-user mode: Enter: <code>reboot -h</code> (or) <code>sync;sync;halt</code>	The console terminal will display the single-user prompt: >>>
3. Insert stand-alone floppy #1 into floppy drive.	None
4. Enter: <code>b/f:1 flp</code>	The Masscomp will read from the floppy and, when finished, the console terminal will display the \$\$ prompt.
5. Insert stand-alone floppy #2 into floppy drive.	None
6. To format the hard disk drive, enter: <code>/stand/xmcformat /dev/ca0</code>	The console terminal will display: Warning!!! This program is about to wipe out all contents of your disk. Are you sure (ok)?
7. Enter: <code>ok</code>	The console terminal will display: Choose one of the following: (0) Custom Geometry - manual entry (1) Micropolis 85 mb (Has a rectangular LED ...) (2) Fujitsu 85 mb (Has a round LED on the disk...) (3) Micropolis 170 mb ESDI (4) Micropolis 382 mb ESDI Which menu selection (0-4)?:
8. Enter: <code>2</code>	The console terminal will display: Format the drive (yes or no)?
9. Enter : <code>yes</code>	The console terminal will display: Do you want to enter the media defect list (yes or no)?
10. Enter: <code>yes</code>	The console terminal will wait for your entry.
11. Install the media defect floppy into the floppy disk drive, and enter the name of the defect list file which appears on the floppy label: example: <code>707809.list</code>	The console terminal will display the following: Geometry block present on disk Use existing bad block list (yes or no)?

12. Enter: no	The message "formatting..." will appear and the disk drive LED will light up. Note: During the format operation, several format related messages will appear. Error messages are self-explanatory. The final message to appear should be: "wrote bad sector list for drive serial # 707809" and the \$\$ prompt will appear.
13. Insert stand-alone floppy # 1 into floppy drive.	None
14. Create an empty file system; enter: /stand/mkfs /dev/ca0	An empty file system /dev/ca0 is created, the sizes are displayed.
15. Check the file system integrity; enter:/stand/fsck /dev/ca0	Phases 0 to 5 of the file system check are displayed.
16. Insert stand-alone floppy #2 into floppy drive and enter: /stand/writeboot /dev/ca0	A boot block will be written to the hard drive.
17. At the \$\$ prompt, insert the tape marked "Masscomp M1 system tape" into the cartridge tape drive and enter: /stand/restor	The prompt: tape? will appear on the console terminal
18. Enter /dev/ctp	The prompt: disk? will appear on the console terminal
19. Enter: /dev/ca0	The prompt: Last chance before scribbling on disk.
20. Enter N/L (note: upper case)	The tape will start to move, files will be restored to the disk. When the restore is complete, a \$\$ prompt will appear on the console terminal.
21. Enter: /stand/fsck /dev/ca0	The file system will be checked (phases 0 - 5)
22. Enter: console	The console prompt >>> will appear on the console terminal.
23. Enter: b	The system will boot up into multi-user mode, the prompt "To use current time, enter RETURN" will appear.
24. Enter the current date and time in the following format: 07-Apr-93 16:00	The console terminal will display messages, the prompt SIMLAB13 41# will appear, then the multi-user login prompt (login:) will appear.
25. Enter: root	The prompt TERM = (vt100) will appear.
26. Enter a carriage return	The screen will clear, date and time will appear, then the SIMLAB13 # prompt.
27. Remove floppy and tape and proceed to installation of release.	None

2.2.2 Installation of Release

This section describes the installation of the BDS-D M1/Masscomp 1.0.0 release tape on to the Masscomp 5600 computer system. A list of executable files, data files, configuration files, startup and shutdown files and their respective location in the directory tree is shown in Table 2-1. Table 2-1 allows the user to verify that what was copied off the BDS-D M1/Masscomp Host 1.0.0 release tape on to the target machine to run in an operational environment is a complete list of application files and their location in the directory tree.

INSTALLATION

1. Load the installation tape into the tape drive.	None
2. Log on to the Masscomp 5600 as root.	The console terminal will display: SIMLAB13 #
3. Read in the installation tape. Enter: <code>tar xvf /dev/rctp</code>	The tape will move, filenames will scroll by on the console terminal.
4. When the tape is fully rewound and the SIMLAB13 prompt appears, remove the installation tape.	None

		Table 2-1	
/simnet/bin		/simnet/data	/simnet/vehicle/m1/data
calibrate	serrestart	asid.d	m1_ammo_pn.p
cigutil	serstart	assoc.def	m1_apds105.d
crcmd	shutdown	cif.def	m1_apds25.d
ctrtest	startup	m1_dev.def	m1_calib.d
dr.o	tee_in	m1_ser.def	m1_cdamage.d
drstart	tfx	m392a2.d	m1_cmc_filt.d
enp.bin		m392a2.p	m1_driv_pn.d
enpdvr.o		m456a1.d	m1_dtad.p
enpreset		m456a1.p	m1_flech60.d
gcomstart		m855.d	m1_fmissile.d
m1		m855.p	m1_heat105.d
m1_calibrate		network.def	m1_hei25.d
m1_kx		ser.def	m1_hellfire.d
m1_panel_test		ser.exe	m1_m107.d
mon_lcmd		serch.def	m1_m151.d
mon_rcmd		simnet.amo	m1_m155.d
monitor		simnet.veh	m1_m73.d
monrestart			m1_m855.d
monstart			m1_maverick.d
nScp			m1_mk82.d
netcontrol			m1_pars.d
netdump			m1_sconfig.d
netstart			m1_soun_pn.d
netxr			m1_thresh.d
panel_test			m1_tow.d
ringstart			m1_turr_pn.d
serdl			m1msgpar.d
serdvr.o			m1prlst.d
serloopback			m1sdam.d
serloopbk			m1vconfig.d

2.3 Warm Start and Shutdown Procedures

The following section outlines the procedure for performing a warm-start and shutdown of the Masscomp 5600 system.

2.3.1 Startup Procedures

This section describes in detail how to startup the M1 simulator.

STARTUP PROCEDURES

CONTROL ACTION	EXPECTED RESULTS
1. Locate the M1 Simulator and the Masscomp 5600 computer that the installation will be performed on.	None
2. Power up the Masscomp 5600 by turning the keyswitch (located on the front panel) to the "1" position.	The console terminal will display: login:
3. Log in as root. (no password)	The console terminal will display: SIMLAB13 #
4. Change to the binary executable directory. Enter: <code>cd /simnet/bin</code>	The console terminal will display: SIMLAB13 #
5. Start up the network and CIG communications: Enter: <code>netstart</code>	The console terminal will display: Killing running ringstart... Resetting /dev/enp0... Loading /simnet/bin/enp.bin on /dev/enp0... Starting /simnet/bin/ringstart... [1] 82 Done SIMLAB13 #
6. Start up the host to cig communications: Enter: <code>drstart</code>	The console terminal will display: [1] 85 SIMLAB13 #
7. Start up the M1 simulation using the Fort Knox database. Enter: <code>source m1_kx</code> (the file <code>m1_kx</code> contains the the m1 startup command followed by parameters tailored for the Ft Knox database. See table 2.2 for command line switches and parameters) (NOTE) Many messages will scroll by on the screen, the last being: SIMULATOR INITIALIZATION COMPLETE	The M1 simulation will startup and the visuals will appear on the tv monitors. Note: The file <code>/simnet/data/assoc.def</code> contains the site and host numbers. If necessary, edit the site number and host number to be compatible with your MCC system. Hint: Look in the file <code>/simnet/data/MCC-pars</code> for the numbers.

Table 2.2

Masscomp M1 Command Line Switches and Parameters

Switch	Description	parameter(s)
-a	Asymmetric buffers: receive send	
-C	Catc Hardware used	
-d	Debugging on	
-D	Debugging for static vehicles on	
-e	Ethernet off	
-E	Exercise Id	ID Number
-f	Float from dbl conversion w/out using f68881	
-F	Fail debug on	
-g	Graphics off	
-G	Guise to use instead of US_M1 (in hex)	Guise
-h	Help	
-I	Indicate vpkt sent	
-k	Keyboard on	
-m	Messages for equipment status not printed	
-n	Network verbose mode	
-N	Night vision on	
-o	Overrun printing	
-p	Position	initial_x initial_y Heading
-P	Priority list debug on	
-s	Sound off	
-t	Terrain Database Name	Database_name
-T	DED Database Name	Database_name
-v	Verbose mode on	
-?	Help	

2.3.2 Shutdown Procedure

The following written set of procedures describe in detail how to shutdown the M1 simulator.

SHUTDOWN PROCEDURES

CONTROL ACTION	EXPECTED RESULTS
1. On console terminal, quit the simulation if running. Enter: q	Simulation should exit, viewer screens will go black. Console terminal will display: SIMLAB13 #
2. At the SIMLAB13 # prompt, enter: shutdown (or) At the SIMLAB13 # prompt, enter: sync sync halt	The message: syncing disks... will appear, then the prompt >>> will be displayed.
3. Turn the front panel key switch to the "0" position.	The system will power off.

3.0 Release Validations

3.1 Cold Start Validation.

The following written set of procedures instructs the user on how to validate the success of the cold-start.

Cold-start Validation Instructions:

The expected results detailed in the System Preparation and Release installation Procedure sections are indicative of a successful cold-start.

3.2 Warm Start Validation.

The following written set of procedures instructs the user on how to validate the load once it is operational.

Warm Start Validation Instructions:

The expected results detailed in the Startup Procedure section are indicative of a successful warm start. After completion of Startup Procedure step 7, the M1 may be activated, moved around the database, weapon may be fired, and the vehicle should be visible on the database by other vehicles, the PVD, and stealth.